Ischnochiton mertensii (Midd.). Common and handsome.

Ischnochiton cooperi Cpr. Not previously reported north of Mendocino County, but common here.

Ischnochiton regularis Cpr. Has not been reported from north of Mendocino County but not rare here. Quite variable in color. Imagine one of a solid turquoise blue!

Mopalia lignosa (Gld.). Large and abundant.

Mopalia muscosa (Gld.). Smaller and less common than further south.

Mopalia hindsii (Rve.). Some very large ones.

Mopalia ciliata (Sby.). Not very common, quite variable in color.

Placiphorella velata Cpr. Not uncommon here. Although the girdles are dark in all our dried specimens they vary considerably in color when alive, being white, greenish-white, rose, or white mottled with rose. Like most of the members of this family, this species lives anywhere, and is evidently inactive, being frequently decorated (or burdened) with a large clump of algae, and leaving a distinct mark when removed from its position on the rock.

Basiliochiton heathii (Pils.). Previously reported from Monterey only, though some of the records of *Trachydermon flectens* Cpr. should perhaps be referred to this species. Our specimens range up to 27 mm. in length and from dull green to brilliant red in color. Two valves are frequently very dark brown and while noticeable on the green they give a really bizarre effect on the red specimens.

Lepidopleurus sp.? Several specimens of this group have been taken but no attempt has been made to refer them to any particular species.

A BIOLOGICAL COLLECTING EXCURSION TO THE ALEUTIAN ISLANDS

BY WALTER J. EYERDAM

For several years I have been engaged as a free lance collector in making biological collections in Alaska and Siberia.

Since 1918 I have made five trips to Siberia, including two to Kamchatka and eleven trips to Alaska. Most of the work has been taken up in botanical collecting for the Riksmuseum of Stockholm during the years of 1928 in Kamchatka and 1931 and 1932 in Alaska. On all of these excursions large collections of shells have been made with the result that many new species have been discovered and more than 60 species were taken from beyond the known limits of Dall's Bulletin 112 (1921).

On April 18th, 1932, in company with Dr. Eric Hulten, botanist from the Riksmuseum, Stockholm, I sailed from Seattle to Unalaska on the coast guard cutter "Tahoe". One of our stops was at Kodiak where we arrived on April 27th. It was raining and blowing sleet nearly all day but we went ashore with some of the officers and made good use of our time by collecting mosses and shells. On Woody Island which is across the bay from Kodiak village I picked up over a dozen large and perfect specimens of *Serripes groenlandicus*. They seem to be numerous in that locality for on four previous visits to Kodiak and Afognak Islands I found but a few. In a small lake on Woody Island I also found the broken shells of thousands of *Anodonta beringiana* Lea. This was the work of introduced muskrats. Only ten perfect shells were found, although in the deeper water they were probably numerous. This is the first time it has been my good fortune to find this species in Alaska, although it is known to be common in some other lakes on the mainland.

We arrived at Unalaska on May 1st but as this was nearly two months too early for collecting flowers we found plenty of other kinds of collecting profitable to take up our time. Large series of marine algae, lichens and mosses were made and also a good series of the local avifauna were prepared. Ten days of strenuous digging in the middens of an Aleut Stone Age village on Amoknak Island near Dutch Harbor revealed many interesting objects including over 200 artifacts, human skulls and a large variety of animal remains. An account of this digging and a list of the animals, includ-

ing the shells of 34 species of mollusks will appear in "The Murrelet".

Dredgings in Illuliuk Bay near Dutch Harbor brought up a fine specimen of *Beringius crebricostatus undatus* Dall, a rare shell. Several good examples of *Pyrulofusus harpa* Mörch were also brought to light. On the reef between Dutch Harbor and Unalaska I found the exact spot where B. Randolph discovered *Melanella randolphi* Vanatta in 1898. His paratypes are mostly in my collection. On bread sponges under rocks at low tide I collected over 500 of this pretty little parasite. Altho it is reported from as far south as Puget Sound I have not found it in any other spot but at the exact type locality. Many interesting small shells were taken in the vicinity of Unalaska that must be submitted to a specialist for determination.

Sixteen islands of the Aleutian chain were explored for plants and quite thorough collections made on most of the principal islands. This group of islands is beset with much difficulty and danger for an explorer. During most of the year they are drenched in heavy fogs or lashed by storms and strong currents. High cliffs and dangerous reefs make many of the islands inaccessible except in rare intervals of calm weather. The boat that we chartered named "Eunice", of the Alaska Commercial Company, ran onto the rocks on Carlisle Island in the Four Mountain Group. This happened a few days after we left her. The crew was picked up by one of the coast guard vessels ten days later on Umnak Island.

Most of the islands are uninhabited and rarely visited. There are only about 300 people west of Unalaska to Attu Island, a distance of about 1,200 miles. There are now only 37 people at Attu village.

I learned of two localities where sea otters are on the increase. The best of these is amongst the Sitkin Islands between Atka and Adak Islands. The other locality is amongst the extensive kelp beds of the reefs jutting out from the Sanak Islands near Alaska Peninsula. A constant menace to the sea otters amongst the Sitkin Islands are Japanese poachers generally commanded by a white man.

Collections of shells were made at King Cove, Alaska Peninsula, False Pass (Izanotski Strait), Unimak Island, Akutan Island, Amoknak Island, Unalaska Island, Amlia Island and Atka Island. The Aleutians are poor in land shells and the only large species are *Polygyra columbiana columbiana* Lea and *Haplotrema vancouverensis* Gould (typical), which are quite common in the vicinity of Unalaska village. I collected over 300 live shells of these two species in an hour in one spot and found many dead shells which had been eaten by voles or field mice. These gnawed shells were to be found by handfuls at the entrance of many of the burrows of Nushagak ground squirrels which are plentiful on Unalaska Island.

Dr. G. D. Hanna in NAUTILUS, Vol. XXXVIII, No. 4, pages 122-125, of April, 1925, in a report entitled "Some Land Shells from the Aleutian Islands, Alaska", records the occurrence of these two species from the above spot. His other records also coincide with the localities where I found them and I saw them nowhere else in the Aleutian chain or Alaska Peninsula. These two species may occur on Kodiak Island but in four excursions to that island and Afognak Island, I have never found one. At Drier Bay, Knight Island, Prince William Sound, I found them only in one place and that was always under boards or building paper. In southeastern Alaska and throughout the Vancouverian province they are common enough.

Dr. Hanna was of the opinion that these two species of snails must be native to Unalaska Island as is also his view pertaining to certain species of insects belonging to the Vancouverian fauna. This theory does not hold good for the flora, however, which is strongly Arctic and Kamchatkan. I believe that the two above mentioned snails have been introduced, as they are both hardy breeds which could easily have been transported with introduced plants, in crevices of timber, vegetables, etc. In all localities, where I found them in Alaska they were always in the vicinity of villages or abandoned human habitations. Unalaska and Dutch Harbor have been in contact with civilization for more than 150

years so there has been plenty of time to accidentally introduce a few hardy snails and insects from southeastern Alaska and other localities. The occurrence of *P. columbiana* and of *H. vancouverensis* at Makushin Bay, Unalaska Island, I do not think very remarkable as Dr. Hanna does. They could easily have been brought by human agency from Unalaska or points farther south. I believe that if they are really natives of Unalaska of long residence they should be found on other islands of the Aleutian chain and should occur farther removed from human habitations than they do in these parts.

The Aleutians are extremely poor in land shells and most of those that do occur are tiny shells with wide northern range.

Prophysaon andersoni (J. G. Cooper) is very common around the town of Unalaska and adjacent Amoknak Island a couple of hundred yards away. It is a great pest to the few vegetable gardens. It has probably been introduced with cabbage or other vegetables.

Succinea chrysis Westerlund I found in wet places at Unalaska, Atka and False Pass, Unimak Island. It is only about one-third the size of the fine big golden specimens that I found at Uganik Bay, Kodiak Island. This form in the Aleutians approaches *S. grosvenori* Lea.

Most of the small land shells in the Aleutians can readily be found under the huge umbellifer, *Heracleum lanatum,* which is distributed abundantly throughout the island group. *Gonyodiscus cronkhitei* Newcomb, *Punctum conspectum* Bland., *Zoogenites harpa* (Say), *Retinella binneyana* (Morse), *Vertigo modesta* Say, *Columella alticola* (Ingersoll), *Vitrina alaskana* Dall, *Pristiloma arctica* (Lehnert) and *Euconulus fulvus alaskensis* Pilsbry were found at Unalaska Island. Several of these species were also taken on Unimak Island and Atka Island.

Two large collections of freshwater shells were made from lakes on Unimak Island and Amlia Island as well as smaller one from Unalaska and Atka Islands. These have not yet been positively identified but will be submitted for publication later.